

## ABSTRACT

An organic-inorganic hybrid material chelating a metal atom of a metal oxide matrix 103 in a pendant shape is synthesized, where the organic compound (the functional chelating agent) 104 is able to develop a function of a coloring property, a light-emitting property, or semiconductivity by chelating a metal atom. As a synthesis method, sol (a composition for coating application) including a metal alkoxide and/or a metal salt and a functional chelating agent may be prepared and the organic-inorganic hybrid material may be synthesized by sol-gel method.

Due to the above-mentioned structure, it is possible to synthesize an organic-inorganic hybrid material that has an organic group directly bonded to a metal oxide matrix and is able to develop a different function from that of a mere metal oxide. In other words, it is possible to realize a functional organic-inorganic hybrid material that develops a coloring property, a light-emitting property, or semiconductivity due to the organic group directly bonded to the metal oxide matrix.

(Selected Drawing) Fig. 1